Tenda®

V1.0

User Guide

www.tenda.cn

W168R
54M Wireless Broadband Router

Copyright Statement

Tenda® is the registered trademark of Shenzhen Tenda Technology Co., Ltd. Other trademarks or trade names mentioned herein are the trademarks or registered trademarks of their respective holders. The copyright of the whole product, including its accessories and software, belongs to Shenzhen Tenda Technology Co., Ltd. Without the permission of Shenzhen Tenda Technology Co., Ltd, any individual or party is not allowed to copy, plagiarize, imitate or translate it into other languages.

All the photos and product specifications mentioned in this manual are for references only. As the upgrade of software and hardware, there will be changes. And if there are changes, Tenda is not responsible for informing in advance. If you want to know more about our product information, please visit our website at www.tenda.cn

CONTENTS

Chapter One Hardware Installation 1
1.1 Rear Panel 1
1.2 Hardware Installation 1
1.3 LED Indicators 2
1.4 Topology of the Wireless Router 3
Chapter Two Configuration Guide 4
2.1 To Set the Network Configuration of your Computer 4
2.2 To Check the Connection 6
2.3 Log in 4
2.4 The Management Interface 7
2.5 Quick Installation Guide 8
2.6 Running Status 11
2.7 Wizard 12
2.8 Advanced Config 12
2.9 WLAN Setting 17
2.10 DHCP Server 30
2.11 Virtual Server 32
2.12 Security Setting 36
2.13 Routing Setting 44
2.14 System Tool 46
Features: 53
Deployment 54
Physical Environment 55
Appendix: Package Contents 55

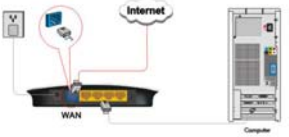
Chapter One Hardware Installation

1.1 Rear Panel

Rear Panel	Description
4 LAN Ports	Connectible to 10/100-BaseT Ethernet LAN network adapter and can uplink to a hub or switch.
RESET	Note! When you press the RESET Button for 7 seconds, the configuration that you have set would be deleted and restore to factory default setting.
WAN	Connectible to ADSL, Cable Modem or community broadband.
AC9V	AC9V/1.0A Power Interface

1.2 Hardware Installation

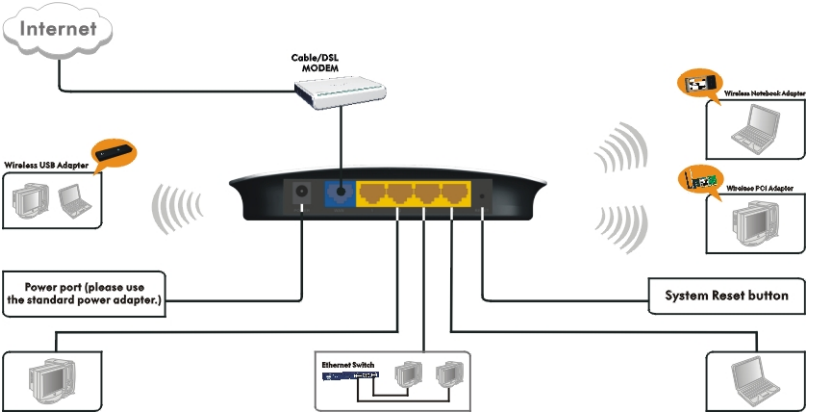
1. Please connect the LAN port of the router to the network adapter of your computer with one cable.	

2. Please use the delivery-attached power supply to power the router.	
3. Please connect your broadband line provided by your ISP to the WAN port of your router.	

1.3 LED Indicators

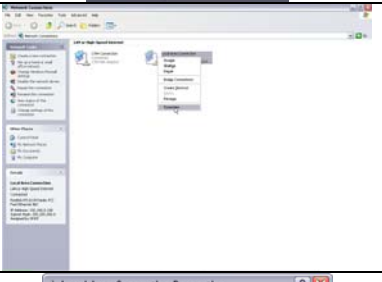
LED Indicator		Description
POWER	Always ON	Indicates it is powered on well.
SYS	Always ON	Indicates the system works well.
WAN	Blinking	Indicates the Router's WAN port is transmitting and or receiving data packets.
WLAN	Blinking	Indicates the wireless signal is OK.
	Off	Indicates wireless signal is turned off. (Press the "Wireless ON/OFF" for one second to turn on/off the wireless signal.)
LAN (1/2/3/4)	Always ON	Indicates the Router connects with the computer well.
	Blinking	Indicates the Router's LAN port is transmitting and or receiving data packets.

1.4 Topology of the Wireless Router



Chapter Two Configuration Guide

2.1 To Set the Network Configuration of your Computer

1. Please right click "My Network Place" on your computer and select "Properties".	
2. In the following dialogue box, please click "Local Area Network Connection" and select "Properties".	
3. In the dialogue box, please select "Internet Protocol (TCP/IP)" and click "Properties".	

4. Please select "Obtain an IP address automatically" or "Use the following IP address"

a. For "Obtain an IP address automatically", it is as the right figure.

Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

b. For "Use the following IP address", please configure as the right figure.

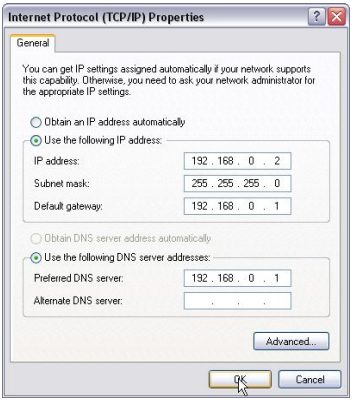
IP Address: 192.168.0.xxx (xxx is a number between 2 and 254)

Subnet Mask: 255.255.25.0

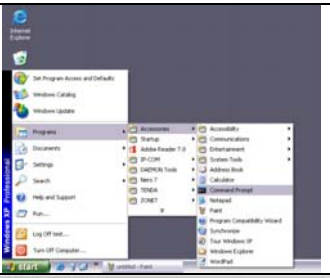
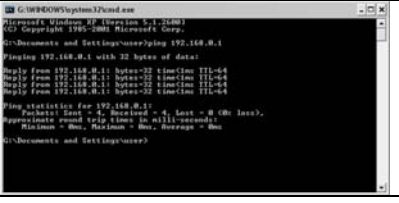
Gateway:192.168.0.1

DNS Server: You could inquire your local ISP and fill in your local DNS server address or you can also use the router as the DNS proxy server.

After configuration, please click "OK" and then click "OK" in "Local Area Connection Properties"

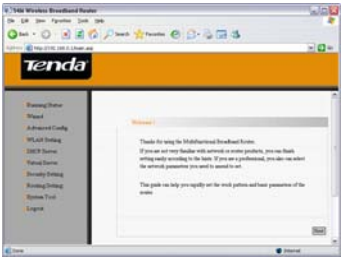

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 0 . 1
Alternate DNS server:
Advanced...
OK
Cancel

2.2 To Check the Connection

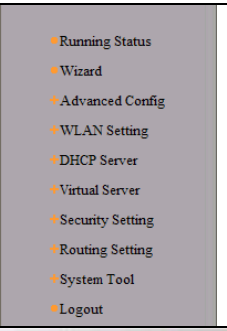
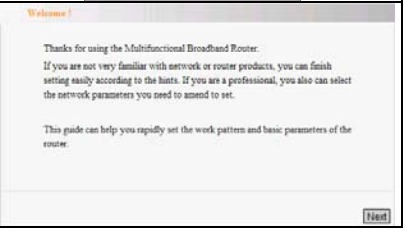
1.Please select "Start"—All Programs " —"Accessories"— "Command Prompt"	
2. Please input "Ping 192.168.0.1" and press Enter, if your screen display as the figure, this means that your computer is connected to your router successfully.	

2.3 Log in

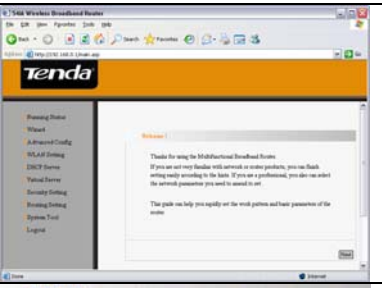
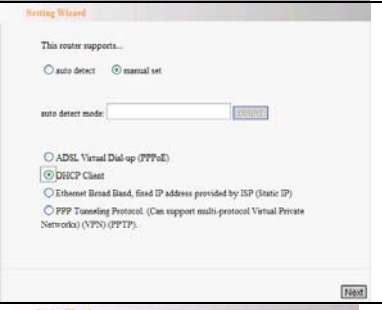
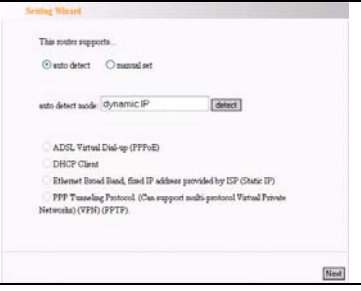
1. Please open your Internet Browser, enter "http://192.168.0.1" in the address bar.	
2. In the dialogue box, please input User Name: admin Password: admin And then click "OK"	

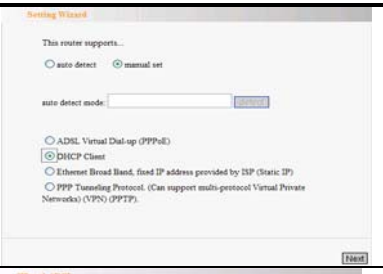
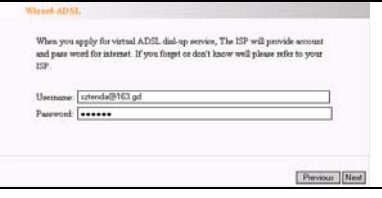
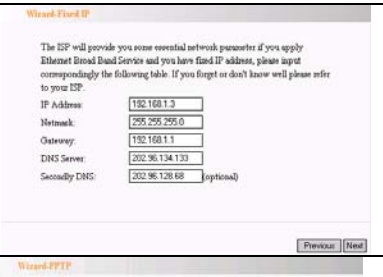
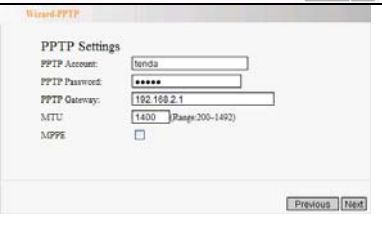
3. The router would verify your user name and password. When they are right, you would see the screen as the right figure.	

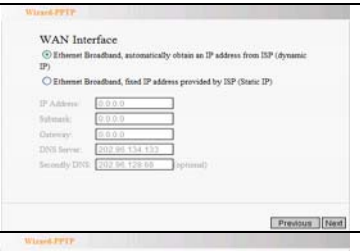
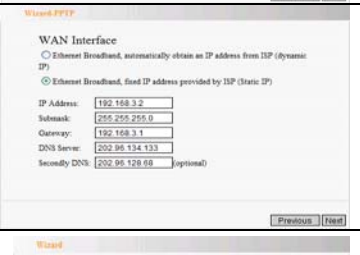
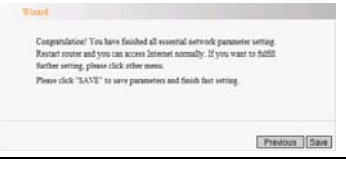
2.4 The Management Interface

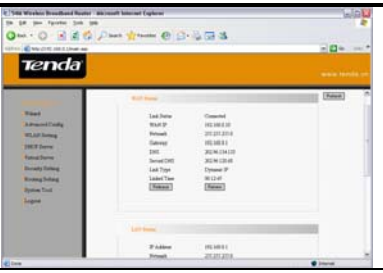
1. On the left side, you can see the buttons: "Running Status", "Wizard", "Advanced Config", "WLAN Setting", "DHCP Server", "Virtual Server", "Security Setting", "Routing Setting", "System Tool" and "Logout".	
2. On the right side, you can see the function configuration of related buttons.	

2.5 Quick Installation Guide

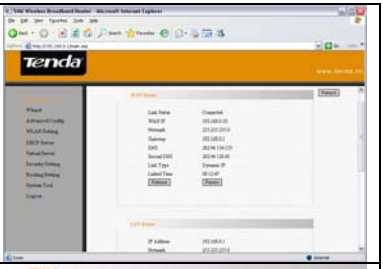
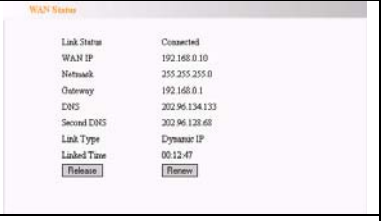
1. Entering into the "Welcome" Interface of the router, please click "Next".	
2. Now you would enter the "Setting Wizard". In order to access the Internet, you should select your connection type to your ISP (Internet Services Provider). This router supports "Auto Detect" and "Manual Set".	
a. If you are not clear of your connection type, please select "Auto Detect" mode and click "Next"	

b. Of course, if you are clear, you could select manually and click "Next".	
3.A. If the connection type is "ADSL Virtual Dial-UP (PPPoE)", please input the "User Name" and "Password" provided by your ISP.	
B. If the connection provided by your ISP is DHCP of "Obtain an IP address automatically", please click "Next".	
C. If the connection is "Ethernet Broadband, fixed IP address provided by ISP (Static IP)", please input the IP Address, Sub-net Mask, Gateway and DNS server address provided by your ISP.	
D. If the connection is "PPP Tunneling Protocol", please input the following parameters provided by your ISP: User Name, Password, Gateway, MTU, MPPE The default MTU is 1400, and you	

can change it according to your requirements MPPE: To Encrypt the connection between your router and the server, if the ISP needs to encrypt the connection, then please select MPPE.	
PPTP provides two access modes. If the PPTP offered by your ISP is Dynamic IP: Please select Dynamic IP and.	
If the PPTP offered by your ISP is Static IP: Please fill in the parameters provided by your ISP and.	
4. After configuration, please click "Next" to enter into the figure beside and click "Save" to finish the configuration.	

5. "Running Status" After configuration, please click the "Running Status" button and check the connection status. If the Link Status is "Connected", now you can access the internet.	

2.6 Running Status

Here we can see the working status of the router	
1. WAN Port Status Here you can see the status of the WAN port including Link Status, WAN IP, Sub-net Mask, Gateway, DNS, Second DNS and Link Type	
2. LAN Port Status Here you can see the status of the LAN port including IP Address, Sub-net Mask, DHCP Server, NAT and Firewall.	

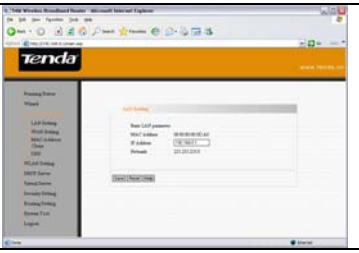
3. Information Here you can see the status of the router including Running Time, System Time, Client Count, Firewall Version, Bootcode Version, LAN MAC Address, WAN MAC Address, and Hardware Version.	

2.7 Wizard

Please refer to 2.5 for Quick Installation Guide

2.8 Advanced Config

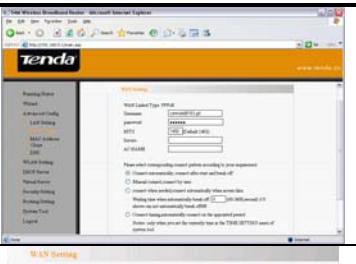
LAN Setting

The configuration parameters of the LAN port of the router is displayed here.	

1. MAC Address: To display the MAC address of the router in the LAN, its value can not be changed.	
2. IP Address: To display the IP address of the router in the LAN, the factory default value is 192.168.0.1, you can change it according to your requirements. For example, you can change the IP address of the router as 192.168.3.1 as the figure beside. ⚠ **Note:** If you change this IP address into a new IP address, then next time when you log in the router, you must use this new IP address to access the management interface of the router. And all the default gateway of the computer in the LAN should be set as the value of this new IP address.	
Netmask: The default Sub-net Mask of this router in the LAN is 255.255.255.0	

WAN Setting

The configuration parameters for the WAN port are displayed in this page.



Here we can change the configuration parameters of the WAN port here. Please refer to the figure beside, and this figure is subject to different connection types to your ISP.

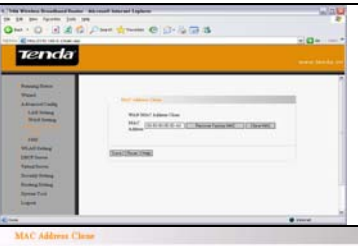
For example, in ADSL mode, we can change the parameters as the figure below:

WAN Setting
WAN Linked Type: PPPoE
Username
szfenda@163.gd
password
MTU
1492 (Default 1492)
Service
AC NAME
Please select corresponding connect pattern according to your requirement:
Connect automatically; connect after start and break off
Manual connect,connect by user.
connect when needed,connect automatically when access data
Waiting time when automatically break off 0 (60-3600,second) 0 shows can not automatically break off
Connect timing,automatically connect on the appointed period
Notice: only when you set the currently time in the TIME SETTING menu of system tool
connect period: From 0 hour 0 min to 0 hour 0 min
Save
Reset
Help

MTU Value	Maximum Transmission Unit
Name of the Server (AC NAME)	Some ISP provides the name of the server (AC Name) and requires using this name during the process of authenti-cation.
Please select the connectio n mode	Connect Automatica-lly: connect after start and break off
	Manual Connect: connect by user.
	Connect when

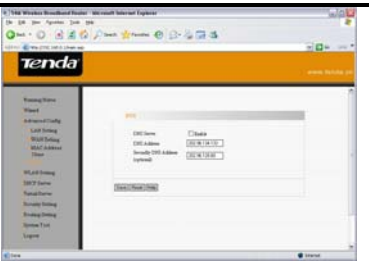
	needed	
	Connect during fixed time	

MAC Address Clone

In this page, you are able to configure the MAC address of the WAN port	
With this function, you are able to clone the MAC address of your computer which is connected to the router, and copy this MAC address to the WAN port of the router. (You are also able to change the MAC Address manually.) If you don't know how to input the MAC Address manually, we recommend that you should use the MAC Address Clone function to copy the MAC Address automatically. For example, if you require to change the MAC address of the WAN port into 00:00:00:00:0D:A0, you should fill it in manually as the figure beside.	

DNS Server

★ Tips: The Domain Name System is the system that translates Internet domain names into IP numbers. A "DNS Server" is a server that performs this kind of translation.



1. DNS Server Configuration: Please select enable and the configuration of DNS would be effected. The DHCP server of the router would distribute the added DNS server address to the client which requires for this.

2. DNS Server Address: Please add the DNS server address which is obtained from your ISP.

3. Secondly DNS Address (Optional):

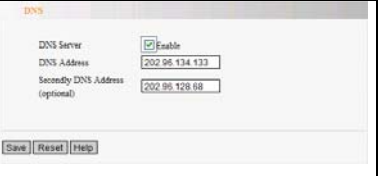
If your ISP provides two DNS server addresses to you, then you can fill the second one here.

For example:

If you IPS provides you with the following parameters:

DNS Server Address	202.96.128.68
Secondly DNS Address	202.96.134.134

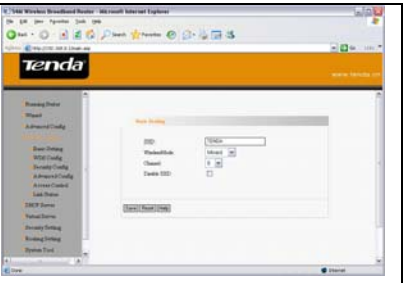
Then you should fill in your

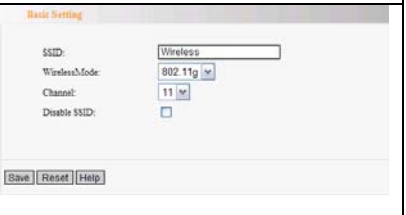


parameters as the figure beside.	

2.9 WLAN Setting

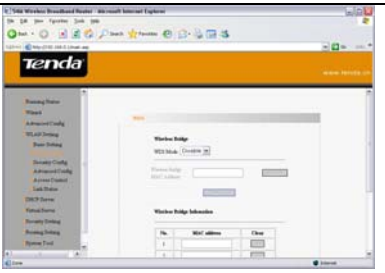
Basic Configuration

In this page, we set the basic wireless parameters	
1. SSID: (Service Set ID). SSID is a group name shared by every member of a wireless network. Only client PCs with the same SSID are allowed to establish a connection. And you are able to change the SSID here. For example, if you want to change the SSID as Wireless, then please fill in the parameters as the figure	

beside.	
2. Wireless Mode: Here you can select "Mixed" or "802.11g" For example, if you require selecting Wireless Mode as "802.11g" mode, please check as the figure beside.	
3. Channels: It is for selecting the working channels of the wireless network. Please select from 1 to 13, or select Auto Obtain to select different channels. For example, if you require setting your channel as 11, then please set as the figure beside.	

4. Close the SSID broadcast: Please select "Disable SSID" to close the SSID broadcasting function, the router would stop broadcasting its SSID among the wireless clients. If the client requires connecting to the router, the user is required to fill in the SSID manually. As the figure beside, please click the "Disable SSID" button to close SSID broadcasting function.	

WDS Setting

★Tips:WDS (Wireless Distribution System) enables different APs to have wireless repeater function without affecting the covered range of the wireless AP.	

1. WDS Mode: Please select to enable WDS function here.	
2. Wireless Bridge MAC Address: Please add a MAC address used for WDS	

3. Scanning Function: You are able to use the scanning function to search for the wireless network nearby which is can be used. When you want to connect to a certain wireless network which is searched, please single click to add it to the WDS table. For example, please refer to the figure beside. We can search the SSID of "TENDA" with MAC Address of "02:10:18:01:00:B6" in the wireless network and add it to the WDS table.	
4. Wireless Bridge Information: To display the MAC Addresses of all the wireless bridges added. Maximum 6 groups are supported. You are able to use the "Clear" button to delete the configuration which you don't need.	

Security Config

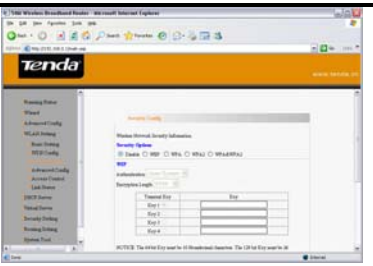
1. Security Options: Please select Disable, WEP, WPA, WPA2, WPA&WPA2 Mode;

★Tips: WEP is a security protocol that is designed to provide a wireless local area network (WLAN) with a level of security and privacy comparable to that of a wired LAN by encrypting the data that is transmitted.

WPA (Wi-Fi Protected Access) is a fairly new standard for wireless networks and is more secure than WEP.

WPA2 (Wi-Fi Protected Access 2) is an enhanced version of WPA. It is the official 802.11i standard that was ratified by the IEEE in June 2004. It uses Advanced Encryption Standard instead of TKIP (see above). AES supports 128-bit, 192-bit and 256-bit keys.

WPA2 supersedes the previous security specification, Wired Equivalent Privacy (WEP) and WPA in security.



2. WEP setting: when user select WEP mode，WEP goes into effect.

a. Authentication: You can select open system which allows any access to the router or select transmit key based on the WEP encryption mechanism;

b. Encryption Length: You can select 64-bit or 128-bit encryption;

Note: The 64 bit Key must be 10 Hexadecimal characters. The 128 bit Key must be 26 Hexadecimal characters. But "0" is disable;

c. Key Options: Only one transmit key is allowed to work at the same time，but you are able to save 4 transmit keys as the same time;

d. Key: Please input key here，please take note the key length and the valid character range;

e.g.: Your encryption mode is as below:

Authentication:	Open system
Encryption Length:	64bit
Transmit Key:	Key 1
Key:	1234567891

You should fill in the parameters

as the figure beside.

3. When user select Security Option of WPA mode, WPA mode goes into effect.

a. WPA Type: You can select AES mode or TKIP mode;

b. Please input key, please take note that the Length and valid character of WPA Key is 8-64 ASCII characters;

c. Key Life: Please input the Key Life you require (30s---429497295s);

e.g.: If you require to set WPA mode as follows:

WPA Type:	TKIP
WPA Key:	ABCDEFGH
Key Life:	3600

Then you should fill in the parameters as the figure beside.

4. WPA2 Setting: When user select encryption mode of WPA2，WPA2 goes into effect.

a. WPA2 Type: You can select AES mode which is a higher level of encryption mode.

b. WPA Key: Please input the key content, please note that the Length and valid character of WPA Key is 8-64 ASCII characters.

c. Key Life: Please input the Key Life you require (30s---429497295s).

e.g.: If you require to set WPA2 as follows:

WPA2 Type:	AES
WPA2 Key:	ABCDEFGH
Key Life:	3600

Then you should fill in the parameters as the figure beside.

5. WPA&WPA2 mixed setting: When user select WPA&WPA2 mode，WPA&WPA2 goes into effect.

a. WPA Type: You can select AES mode or TKIP mode;

WPA2 Type: You can select AES.

b. Key: Please input key content, please note that the Length and valid character of WPA Key is from 8 to 64 ASCII character.

c. Key Life: Please input the Key Life you require (30s---429497295s).

e.g.: If you require to set WPA mode as follows:

WPA Type:	TKIP
WPA2 Type:	AES
WPA Key:	ABCDEFGH
WPA2 Key:	STUVWXYZ
Key Life:	3600

Then you should fill in the parameters as the figure beside.

Advanced Config

Radio Preamble: The potion for Antenna Mode which enables you to select the antenna for transmitting data and receiving data.

802.11b Rate Setting: Enables you to select the negotiated transmission speed to wireless LAN card under the 802.11b standard.

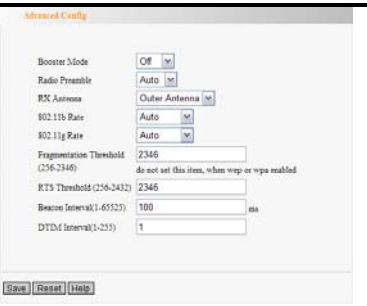
802.11g Rate: Enables you to select the negotiated transmission speed to wireless LAN card under the 802.11g standard.

Fragmentation Threshold (256-2346): the period each data package should be divided.

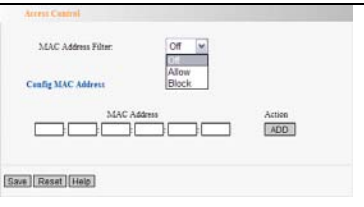
RTS (Request to Send) Threshold (256-2432): When the data packet exceeds this threshold, using CTS/RTS mechanism can reduce the possibility of collision;

Beacon Interval (1-65525): Please set the parameters for "Beacon Period".

DTIM Interval (1-255): To set DTIM period. Please fill in the time interval during which the AP should broadcast wireless signal.

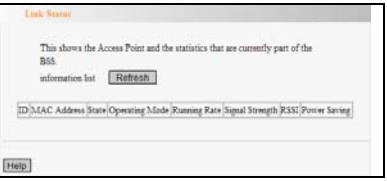


Wireless access control

Based on MAC Address, wireless Access Control is able to permit certain client access to the wireless network, or forbid certain client access to the wireless network.	
1. MAC Address Filter: Here you can select "Allow" or "Block" to control the clients" to access the wireless network. a. When you select "Allow", only the clients listed on MAC Address Tables are able to have access to the wireless network. b. When you select "Block", all the clients listed on the MAC Address Table are not allowed to access the wireless network, and the ones which are not listed are able to have access to the wireless network.	
2. Config MAC Address e.g.: You could add MAC Address 00:C0:9F:AD:EF:C5 to the list as the figure beside	

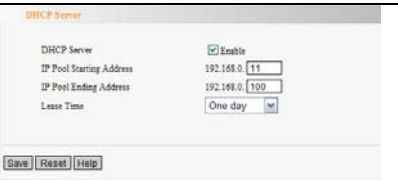
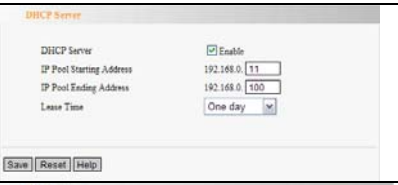
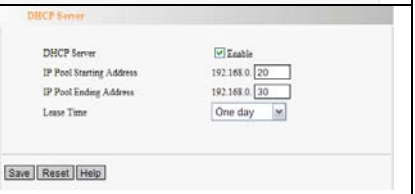
3. MAC Address List On this list, you can view the controlled MAC Addresses or delete them if necessary.	

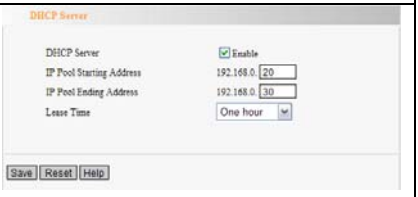
Link Status

You can view wireless clients' access status like their MAC Address and transmission rate.	

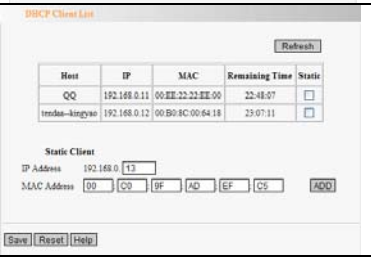
2.10 DHCP Server

DHCP Server setting

★Tips: DHCP is the abbreviation of Dynamic Host Configuration Protocol which can assign IP address, Subnet Mask, Default Gateway of LAN Client on TCP/IP automatically.	
1. DHCP Server: The DHCP function will go into effect if you select "Enable" as the figure beside.	
2. IP Pool Starting Address: The starting IP address which DHCP Server automatically starts. 3. IP Pool Ending Address: The ending IP address which DHCP Server automatically ends. The IP address that DHCP Server assigns to the requested client should be within the IP Pool. e.g., when you configure IP address pool from 20 to 30, the IP Address which can be obtained by the clients would be between 20 and	

30.	
4. Lease Time: You can set the time period during which the DHCP allows the assigned IP addresses to be used by the clients. By setting a suitable lease time, you would enable the DHCP to take better advantage of the IP addresses which are not used again. For example, you can set the lease time as one hour, and then the DHCP server would take back the IP addresses per an hour.	

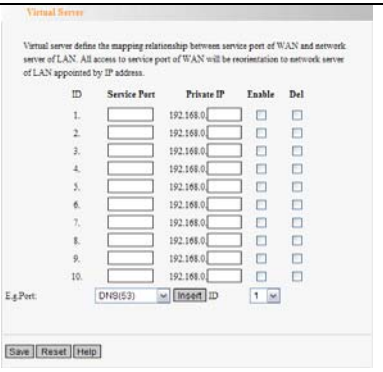
DHCP Client List

You can view the link status of the connected clients in the DHCP Client list, including IP address, corresponding MAC address and Lease time etc.	
DHCP Client List shows the binding MAC address, namely, IP address assigning to corresponding MAC address. 1. IP Address: Please input corresponding LAN IP Address.	

2. MAC Address: Please input corresponding MAC Address. e.g.: If you need to bind IP Address "192.168.0.11" to MAC Address "00:C0:9F:AD:FF:C5", please fill in parameters as the figure beside.	

2.11 Virtual Server

Virtual Server

This wireless router is equipped with firewall function, so the computer from WAN is forbidden to have access to the certain servers in LAN. But sometimes, we have to allow some computers from the WAN to have legal access to the servers in LAN. In order to achieve this operation, the Virtual function of the router enables you to do this. The virtual server defines a service port through which the computers from WAN are able to have access to the corresponding servers. Then this function is to bind the service port and the IP address of the server in LAN.	

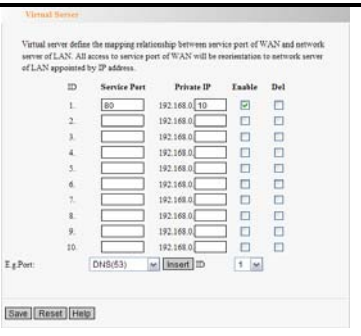
1. Service Port: The service port which the router offers to WAN.

2. IP Address: The IP Address of the computer in the LAN which work as a virtual server.

3. Enable: Please select "Enable" and the rules will go into effect.

4. In "Service Port", the common port numbers are list here. You could select one of them and then select an ID in "ID" and then press "Insert", and then the port would be added to the list automatically. For the port numbers which are not displayed here, you could fill it manually.

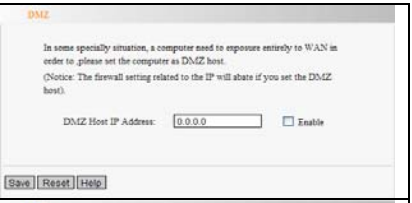
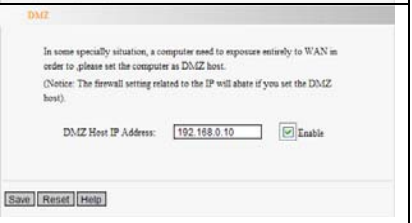
For example, the server in the LAN with IP address of 192.168.0.1 offers WEB service with port number of 80, in order to enable visitors in the Internet to have successful access to this server, you should configure as the figure beside.



⚠Note: If you configure a virtual server (server port: 80), you should configure the remote WEB management in "Wireless Security Configure" as a value different from

80. For example, you could set it as 8080. Otherwise the confliction would occur and the server would not be able to function. After you configure the value in "Wireless Security Configure", you should reboot the router to make the settings go into effect.	

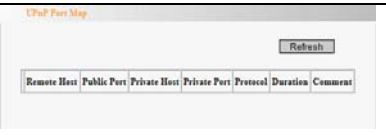
DMZ Host

In some special situations, a computer needs to expose entirely to WAN in order to realize intercommunication. So, please set this computer as DMZ Host.	
Please input the computer's IP address of the computer in LAN which is to be set as DMZ host in "DMZ Host IP Address". Click "Enable", and then click "Save". For example, if you want to set the computer in your LAN with IP address of 192.168.0.10 as a DMZ Host in order to realize its intercommunication with another host computer in the Internet, please set as the figure beside.	

UPnP Setting

It supports latest Universal Plug and Play. This function goes into effect on Windows XP or Windows ME (Note: The operating system must have Directx 9.0 integrated or have Directx 9.0 installed) or this function would go into effect if you have installed software that supports UPnP. With the UPnP function, host in LAN can request the router to process some special port switching so as to enable host outside to visit the resources in the internal host.	

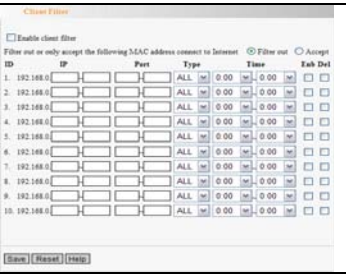
UPnP Port Map

When you start UPnP function, click "refresh", then you can see the port switching information. Port switching information is offered by the request of the application.	
1. Remote Host: The description of the remote Host which receives or transmits response. 2. Public Port: The port of the router for port switching.	

3. Private Host: The description of the private host which receives or transmits response. 4. Private Port: The description of the private port which receives or transmits response. 5. Protocol: To indicate port switching for TCP or UDP. 6. Duration: Time responding. 7. Comment: UPnP Mapping inform- ation.	

2.12 Security Setting

Client Filter

To benefit your further management to the computers in the LAN, you can control some ports access to Internet by data packet filter function.	

1. Click "Filter Out" or "Accept". When you click "Filter Out", you are only forbidding the host in LAN with the corresponding IP address to go through the router by the corresponding port. When you click "Accept", you are only allowing the host in LAN with the corresponding IP address to go through the router by the corresponding port.

3. IP: Please fill in the IP address of the controlled computer in the LAN. You are able to use a range of IP addresses.

4. Port: Please fill in the TCP/UDP protocol port that you require to control, you can set a range of IP addresses.

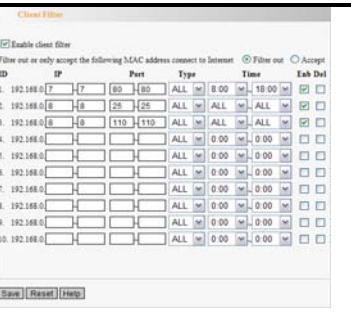
5. Type: Select the protocol of data packet controlled (All means TCP/ UDP both included).

6. Time: Please fill in the time when this rule goes into effect and goes out of effect.

7. Enable: This filter rule functions.

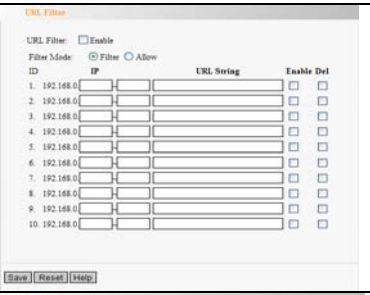
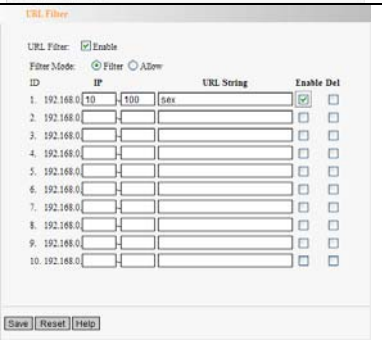
8. Save: Click to finish and save setting.

For example, if you require forbidding the computer (IP address



192.168.0.7) browsing website during 8:00-18:00 and forbidding the computer with IP of 192.168.0.8 receiving emails all day, you can set as the figure beside.	

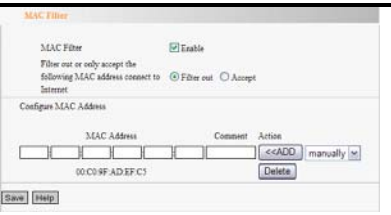
URL Filter

In order to control the computer to have access to websites. You can use URL filtering to allow the computer to have access to certain websites at fixed time and forbids it having access to certain websites at fixed time.	
1. Enable URL Filter Function 2. Filter Mode: Two filter modes, "Filter" and "Allow", are available. When you select "Filter", you are able to forbid the computer with the IP address visiting the URL with the contents stated. When you select "Allow", you are allowing the computer with the IP address to have access to the URL with the contents stated only.	

3. IP: Input the IP of the computer in LAN to be managed, or you can also input a range of IP addresses. 4. URL String: Input full or part of the domain name. 5. Enable: To enable the selected URL filter rules. 6. Save: To save your settings. For Example: If you require forbid the computers in LAN with IP Address of from 192.168.0.10 to 192.168.0.100 from having access to the websites with the domain of "sex", or part of its domain name with words of "sex", you could set as the figure beside. ⚠**Note:** You should restart your client utility, or run "net stop dnscache" in its MS-DOS window to make the setting go into effect due to the DNS cache function of Windows.	

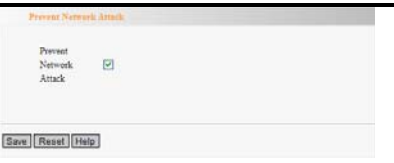
MAC Filter

In order to manage the computers in LAN better, you could control the computer's access to Internet by MAC Address Filter.	

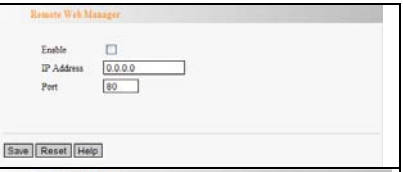
1. MAC Filter: Choose "Enable" to enable MAC filter function. 2. Filtering Rule: Please refer to the figure below. Please choose 'Filter out' to prohibit the MAC listed in the MAC address column. Also, you could choose "Accept" to allow the MAC in the list to have access to Internet. 3. MAC address: Fill in the MAC address which you need to control. 4. Comment: To fill in the description of this computer with this MAC address. 5. Action: Click "ADD" to add the MAC Address in the MAC address column. 6. Save: Please click "Save" and you could save your settings. For example: you don't want the computer with MAC of 00:C0:9F:AD:EF:C5 to access Internet, but allow other computers in LAN to access, you would configure as the figure beside.	

Prevent Network Attack

Prevent Network Attack: When you	

enable this function, the router would be able to prevent from network attack. When computer attack the router, it would control the bandwidth of the computer. You would click log in System tool to check the IP which attacks the router.	

Remote WEB Manager

<table>
<tr>
<td>This section is to set the WEB managing port and set the IP address in WAN which is allowed to execute remote WEB manager function.</td>
<td> 
</td>
</tr>
<tr>
<td>1. Enable: Enable remote WEB manager function.
2. IP Address: The IP address in WAN which is allowed to execute remote WEB managing function.
3. Port: The port through which the computer in WAN execute remote WEB manager function.
⚠Note:
1. The default port through which the computer in WAN is able to execute remote WEB managing function is 80. If you change the port (take 8080 for example), you should type http://192.168.1.2:8080 to go to the WEB management interface.
2. The default IP which is allowed to execute remote WEB managing function is 0.0.0.0. Under this default situation, all the computers</td>
<td>
</td>
</tr>
</table>

in WAN is able to log in and execute remote WEB manager function. If you change this default IP (take 218.88.93.33 for example), only the compute with IP of 218.88.93.33 is able to log in and execute this function. For example, we just allow the IP of 218.88.93.33 to log in and execute remote WEB manager function via port 8080; you would set the data as the figure beside.	

WAN Ping

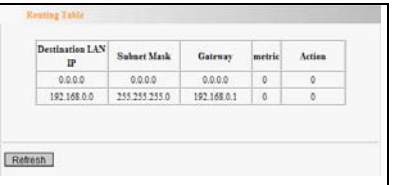
Ignore ping from WAN port: When enabling this function, the computers in WAN is not able to ping the router, except the computers in LAN.	

Special Application Filter

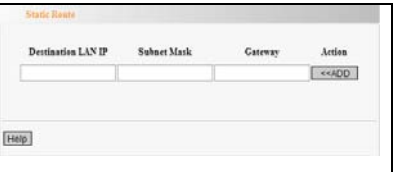
When enable Special application Filter, it would prohibit application like MSN, QQ, OICO etc.	

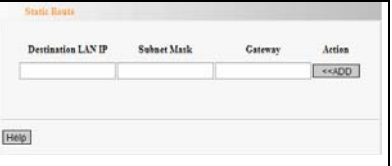
2.13 Routing Setting

Routing Table

★Tips: The main duty for router is to look for a best path for every data frame, and transfer this data frame to destination. So, it's essential for the router to choose the best path, i.e. routing arithmetic. In order to finish this function, many transferring paths, i.e. routing table, are saved in the router, for choosing when needed.	

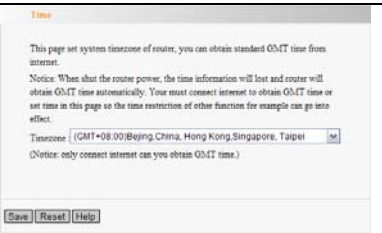
Static Route

★Tips: The routing table which is set by administrator in advance is called static route. Usually, it is set according to network configuration when installing the operation system. It would not be changed according to network structure's change. 1. Destination LAN IP: The IP address or IP segment which would be accessed. 2. Subnet Mask: Fill in Subnet Mask.	

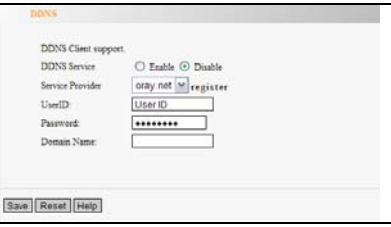
Usually, it is 255.255.255.0. 3. Gateway: The IP address of the host or router, to which the data packet is transferred. 4. Action: After you click "ADD", the setting would be taken into effect.	
⚠ **Note:** 1. Gateway IP must be in the same IP segment as WAN port or LAN port. 2. If the destination IP is the IP address of a host, the Subnet mask must be 255.255.255.255. 3. If the destination IP is IP segment, it should be matching with the Sub-net Mask. For example, If destination IP is 10.0.0.0, the Subnet Mask must be 255.0.0.0; If the destination IP is 10.1.2.0, the Subnet Mask must be 255.255.255.0.	

2.14 System Tool

Time

This section is to set system time of router. You would set your own time or obtain GMT time from Internet. ⚠**Note:** After you turn off the power of the router, the time information would be lost. When you turn on the router and connect to the Internet, the router would obtain GMT time automatically. You should go to Internet and obtain GMT time, or come to this page for setting the time of the router, and the time restriction of other functions (for example: firewall), would take into effect.	

DDNS

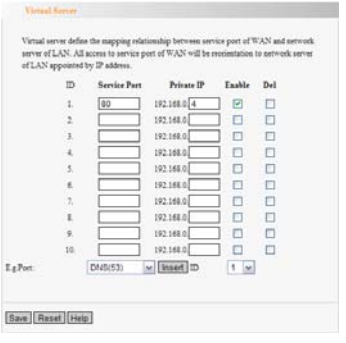
★Tips: DDNS is short for Dynamic Domain Name Server. It is to map the dynamic IP address of the user to a fixed Domain Name Server. The main function is :	

1. The ISP only supplies dynamic IP address. DDNS captures the changing IP address which the users change every time, and correspond it with the domain name. So, other users would communicate with the user by domain name.
2. DDNS is able to help you to establish virtual server in your home or office.

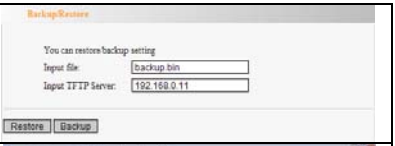
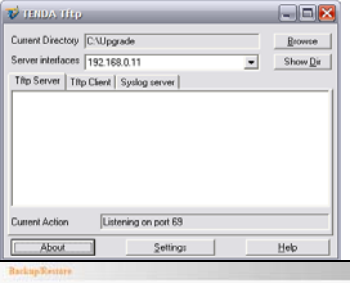
For example: On the local server 192.168.0.4, you set up a WEB server, and register in Oray as follows:

USER ID	tenda
PASSWORD	123456
Domain Name	test.vicp.net

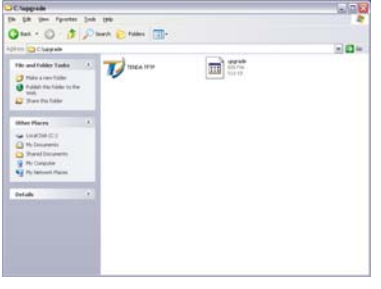
Virtual Sever defines the mapping relationship between service port of WAN and network server of LAN. Please fill in the figure as the figure beside to define the relation. And fill in User ID and password in DDNS. And then, please enter http://test.vicp.net and you are able to access your WEB.

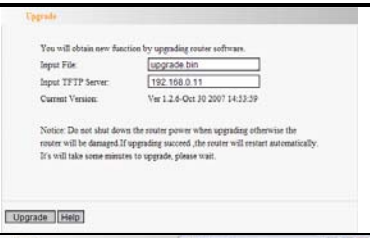
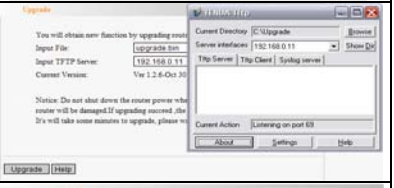
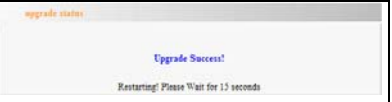


Backup/Restore

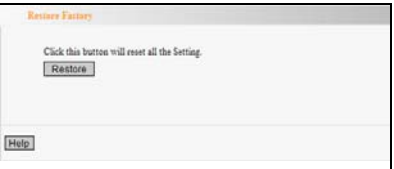
Here, you could backup or restore the configuration on router which you set before.	
The steps to backup: 1. Download: Please go to our website（www.tenda.cn）and download a TFTP appliance program.	
2. Save this program in a fixed file and run it.	
3. Backup: Click "Backup" to form a backup file in TFTP appliance program. Also, we could put the files which are to be uploaded in the TFTP directory, and then click "Backup", and then please reboot the router and you could backup your router with the file which you put in the TFTP directory.	

Upgrade

By upgrading the software of router, you'll enable your router to be more stable and obtain value-added function for your router.	
The steps to upgrade: 1. Please kindly go to our website （www.tenda.cn）, and download software for upgrading with higher version. It is in WinRAR format.	
2. Please establish a TFTP server in your computer. Then please unpack the WinRAR files which you download and put in under the directory of TFTP, and please remember the name of this unpacked file. For example: You could establish a folder named "Update" in your disk C. Put TFTP server and the unpacked WinRAR files in this folder.	

3. Fill in "Input File", please fill in the name of the file which you unpacked, for example "upgrade.bin", and in "Input TFTP Server" please fill in the IP address of the TFTP server, for example "192.168.0.11"	
4. Then please click the "Upgrade" button in the Interface of the router to run the TFTP server for upgrade.	
5. After upgrading, the router would restart automatically. ⚠Note: Do not shut down the router power during upgrade, otherwise the router would be damaged. If upgrading successfully, the router will restart automatically. It would take several minutes for restarting. Please wait.	

Restore Factory setting

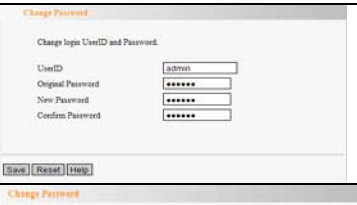
Please click '"Restore", it will reset all configurations to factory default setting. ● Default USER ID: admin ● Default Password: admin ● Default IP address: 192.168.0.1 ● Default subnet mask: 255.255.	

255.0 ⚠Note: After restoring, please reboot the router and the restoring would go into effect.	

Reboot

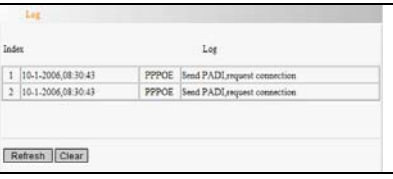
After rebooting the router, all the resetting would be taken into effects, and before rebooting, the router would disable its connection with the ADSL automatically.	

Change Password

This section is to change password for administrator.	
Please input the original password firstly, and then input the one you want to adopt. If the original password is correct, you would change the password successfully by clicking "Save". For example: We want to change the USER Name and password into the parameters as follows: USER Name: tenda Password: tenda	

Please fill in the data as the figure beside.	
⚠ Note: For data safety, we strongly suggest that you change the factory default USER Name and Password.	

Log

In Log, you could check various status of the system after it starts, and could also check if there is network attack towards the router.	
Clear: Please click "Clear" to delete the existing log information.	

Features:

- Integrates router, wireless access point, four-port switch and firewall in one
- Provides up to 54M speed rate and auto negotiates 54/48/36/24/18/12/9/6/M or 11/5.5/2/1M speed rate
- Compliant to IEEE802.11b, IEEE802.11g, IEEE802.3 and IEEE 802.3u standards
- Supports far-distance transmission, 150 meters indoors, 400 meters outdoors (depends on the environments around)
- Supports 64/128-bit WEP encryption, WPA and the latest WPA2 encryption security authentication
- Supports RTS/CTS protocol and data partitioning function
- Provides one 10/100Mbps Auto-Negotiation Ethernet WAN ports for WAN connection
- Provides four 10/100Mbps Auto-Negotiation Ethernet LAN ports for LAN connections
- Supports xDSL/Cable MODEM, static and dynamic IP in community networking
- Supports remote/local Web management and TFTP upgrade
- Supports SSID stealth mode and access control based over MAC address
- Supports Auto MDI/MDIX
- Supports wireless Roaming technology and ensures high-efficient wireless connections
- Supports auto negotiation/manual mode for 802.11b/802.11g
- Supports UPnP and DDNS
- Supports the access control over 30 MAC addresses of NICs
- Supports Firefox 1.0，IE5.5 or above

- Supports SNTP
- Supports virtual server, DMZ host
- Built-in firewall for anti-attack
- Supports DHCP server/client
- Supports auto-choosing wireless channels
- Supports the control over LAN access to Internet
- Provides syslog to record the status of the router
- Supports WDS wireless network extension

Deployment

W168R wireless broadband router provides you with wireless connection solution for high speed, reliable and low cost. Its deployment is as follows:

1. For staff who requires high mobility in their office, they require to have access to the office traditional wired or wireless network in any location of their office.
2. For the staff or enterprise who often changes the layout of the LAN
3. Limited by architecture or budget, some companies which are not suitable for LAN, such as ancient castle, rented house or temporary location.
4. For the staff or company who avoid using expensive cables, rented cables or way leave.

Physical Environment

1. Wired Ethernet LAN or Wireless Ethernet LAN
2. Please use cable to connect the ALN port of the W168R router to the LAN. For wireless client, please refer to the user's guide of the wireless NIC to connect the wireless NIC to the wireless router wirelessly.
3. WAN port connectible to WAN, ADSL, Cable Modem etc.
4. IE5.5, Firefox 1.0 or above.
5. Operation System supporting Windows, Linux, NetWare etc; And network with TCP/IP communication protocol
6. Place the router horizontally.
7. Please keep the router away from heater.
8. Please don't place the router in dirty or humid location.

Appendix: Package Contents

Please unpack the packing carefully, and you could find the below articles:

- One Wireless Broadband Router
- One Power Adapter
- One Quick Installation Guide
- One CD-ROM